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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/902,691	07/12/2001	Li Li	M4065.0159/P159-A	3130

24998 7590 10/15/2002

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EXAMINER

BROCK II, PAUL E

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 10/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,691

Applicant(s)

LI ET AL.

Examiner

Paul E Brock II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59-84, 92 and 93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 59-84, 92 and 93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 59 – 65, 67 – 84, 92 and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Summerfelt et al. (USPAT 5612574, Summerfelt).

With regard to claim 59, Summerfelt discloses in figure 1 an integrated circuit substrate (12). It is noted that the limitations in claim 59 are product-by-process limitations that do not patentably distinguish the claimed invention over the prior art.

With regard to claim 60, Summerfelt discloses in figure 1 and column 3, lines 3 – 11 wherein the substrate is a silicon-based substrate.

With regard to claim 61, Summerfelt discloses in figure 1 and column 3, lines 17 – 20 wherein the substrate has an oxide layer (18) formed over the substrate.

With regard to claim 62, Summerfelt discloses in figure 1 and column 3, lines 3 – 11 wherein the substrate is a germanium substrate.

With regard to claim 63, Summerfelt discloses in figure 1 and column 3, lines 17 – 20 wherein the substrate has an oxide layer (18) formed over the substrate.

With regard to claim 64, Summerfelt discloses in figure 1 and column 3, lines 3 – 11 wherein the substrate is a gallium arsenide substrate.

With regard to claim 65, Summerfelt discloses in figure 1 and column 3, lines 17 – 20 wherein the substrate has an oxide layer (18) formed over the substrate.

With regard to claim 67, Summerfelt discloses in figure 1 and column 2, lines 3 – 8 wherein the substrate is a DRAM substrate.

With regard to claims 68 – 84, 92 and 93 Summerfelt reads on claimed limitations. It is noted that the limitations in claims 68 – 84, 92 and 93 are product-by-process claims that do not patentably distinguish the claimed invention over the prior art.

3. Claims 59 – 61, 64 – 66, 68 – 84, 92 and 93 are rejected under 35 U.S.C. 102(e) as being anticipated by Filipiak et al. (USPAT 5612574, Filipiak).

With regard to claim 59, Filipiak discloses in figures 1 – 3 an integrated circuit substrate (30). It is noted that the limitations in claim 59 are product-by-process limitations that do not patentably distinguish the claimed invention over the prior art.

With regard to claim 60, Filipiak discloses in figures 1 – 3 and column 3, lines 45 – 50 wherein the substrate is a silicon-based substrate (32).

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With regard to claim 61, Filipiak discloses in figures 1 – 3 and column 3, lines 50 – 54 wherein the substrate has an oxide layer (34) formed over the substrate.

With regard to claim 64, Filipiak discloses in figures 1 – 3 and column 3, lines 45 – 50 wherein the substrate is a gallium arsenide substrate (32).

With regard to claim 65, Filipiak discloses in figures 1 – 3 and column 3, lines 50 – 54 wherein the substrate has an oxide layer (34) formed over the substrate.

With regard to claim 66, Filipiak discloses in figures 1 – 3 and column 3, line 67 and column 4, lines 1 – 4 wherein the substrate has an antireflective coating (38) thereon.

With regard to claims 68 – 84, 92 and 93 Summerfelt reads on claimed limitations. It is noted that the limitations in claims 68 – 84, 92 and 93 are product-by-process claims that do not patentably distinguish the claimed invention over the prior art.

Response to Arguments

4. Applicant's arguments filed September 26, 2002 have been fully considered but they are not persuasive.

5. With regard to the applicant's arguments that "Because claims 59 – 84 recite a resulting structure produced by using these particular etching parameters and which 'cannot be adequately described in any other manner,' the product-by-process claims 59 – 84 are 'perfectly acceptable one(s),'" it should be noted that the product which is being claimed are cylindrical contact holes as described in the specification on page 8, lines 17 – 20 and in figures 1 – 15. Thus this product

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can be described adequately without using product-by-process limitations. Therefore, the arguments are not persuasive and the rejection is proper.

6. Product-by-process limitations do not structurally define the product which is being claimed over the product of the prior art. Therefore, the arguments are not persuasive and the rejection is proper.

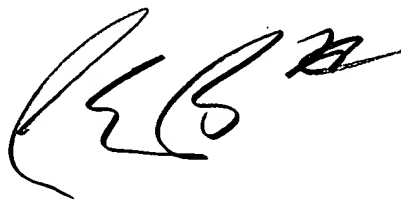
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul E Brock II whose telephone number is (703)308-6236. The examiner can normally be reached on 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703)308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

Paul E Brock II
October 11, 2002



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800